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WASTE
MANAGEMENT PROGRAM

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Missouri Department of Natural Resources
Waste Management Program
Box 176
Jefferson City, Missouri 65102

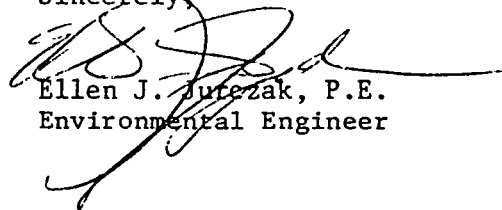
Re: Closure Plans for Brentwood and Blue Springs Service Centers

Dear Sir or Madam:

Attached you will find two Closure Plans for the Safety-Kleen Service Centers presently located in Brentwood and Blue Springs, Missouri. Closure will be effective February 28, 1985, and operations will be moved to Caseyville, Illinois, and Independence, Missouri, respectively.

If you have any questions or require further information, please call me on extension 2246.

Sincerely,



Ellen J. Jurezak, P.E.
Environmental Engineer

EJJ:ah
Encls.
cc: W. Heyn
R. Karass

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**WASTE
MANAGEMENT PROGRAM**

CLOSURE PLAN FOR SAFETY-KLEEN CORP.

BRENTWOOD, MO

(MOD 096714829)

CLOSURE PLAN FOR SAFETY-KLEEN CORP.

BRENTWOOD, MO

(MOD 096714829)

A. INTRODUCTION

The Safety-Kleen Corp. has constructed each service center with the intent that each will be a long term facility for the distribution of Safety-Kleen products. There is no onsite disposal activity at any plant and hence there is no disposal capacity to be exhausted that will necessitate closure of a facility. The following Closure Plan is designed to identify the steps necessary to completely close the facility and should be used for tanks, drum storage areas and equipment.

It is estimated that the useful life underground tanks are usually 15 to 20 years. The tanks at this site were installed in 1969 and 1974, and are therefore expected to be tight. Other waste management components are expected to last much longer.

It is intended that all closures will be complete and final with removal of waste and decontamination of the facility and associated equipment, in order to eliminate need for maintenance after closure and chance of escape of hazardous waste constituents into the environment.

B. FACILITY DATA

1. Waste Management Facility Descriptions

a. Underground Storage Tank

One 6,000 and one 10,000 gallon steel tank for used Mineral Spirits storage.

b. Drum Storage Area: 5' x 30' area. It has capacities for 188 16-gallon, immersion cleaner drums and 12 16-gallon, Mineral Spirits (dumpster mud) drums.

c. Solvent Return/Fill, 10' x 10', with one wet dumpster and associated appurtenances.

2. Maximum Inventory of Wastes

a. Used Mineral Spirits: 90% x 16,000 gallons = 14,400 gallons

b. Used Immersion Cleaner: 188 drums x 5 gallons/drum = 940 gallons

c. Mineral Spirits Dumpster Mud:

(1) 12 drums x 8 gallons/drum = 96 gallons

(2) In Dumpsters: 3' x 5' x 1.5' x 7.48 gallons/cu. ft. = 168 gallons

C. CLOSURE PROCEDURES

1. UNDERGROUND TANKS AND ASSOCIATED PIPING

a. OUTLINE - To safely clean and decommission underground storage tanks:

- (1) Provide access to each tank.
- (2) Remove remaining material from tanks and return the materials to the Recycle Center for reclamation.
- (3) Rinse, scrape and squeegee tank interiors.
- (4) Disconnect and cap all appurtenant underground piping.
- (5) Disconnect and decontaminate all appurtenance pumping equipment.
- (6) Remove tanks and appurtenant equipment.
- (7) Remove and dispose of contaminated soil surrounding the tank.
- (8) Backfill all excavations with stable materials.
- (9) Transport and dispose of all other waste material generated during the project.

b. PHASE I - OPEN THE TANK

- (1) To gain access to underground tanks, carefully excavate around all lines to locate a point of access. Depending on the type of opening and the condition of the equipment, a variety of tools may be used. Care must be exercised to minimize spark generation when working on the tank.
- (2) Prior to opening the tanks the personnel should have full face respiratory protection and protective clothing. Once the tanks have been opened they will be provided with positive ventilation. The tanks will then be inspected to determine the approximate quantity and physical conditions of the remaining material.

c. PHASE II - REMOVING WASTE AND CLEANING TANK

- (1) Before removing the waste from the tank, all underground piping and appurtenant equipment will be flushed first with clean mineral spirits followed by detergent solution.
- (2) The method to remove the waste material from the tanks will depend on the physical properties and quantities of that material. Prior to any person entering the tank, an effort will be made to remove as much liquid and sludge as possible.
- (3) Subsequent to vacuuming the majority of the material from the tanks, it may be necessary to use a high pressure wash system using clean solvent and detergent solution to rinse residual material from the walls and bottom of the tanks. The evacuated material and the rinse solution will be returned to the Recycle Center for reclamation. The quantity of wash fluid used will be kept to a minimum in order to limit the amount of unnecessary material.

- (4) Storage Tanks are considered Confined Spaces i.e. spaces open or closed having a limited means of egress in which poisonous gases or flammable vapors might accumulate or an oxygen deficiency might occur.
- (5) Confined Space Entry requires special operating procedures:
 - (a) Tanks are to be washed, neutralized and/or purged (where flammable atmosphere is present) prior to being entered.
 - (b) Supply valves must be closed and "tagged" and bleeder valves left open; or supply piping should be disconnected.
 - (c) Pumps or motors normally activated by automatic controls shall be operated manually to be sure they have been dis-connected. Instrument power switches should be tagged "Off".
 - (d) On tanks where flammable vapors may be present, all sources of ignition must be removed.
 - (e) All tanks must be tested for flammable vapors, toxic gases or oxygen deficiency in that order as applicable. The results of such tests should be displayed on the job site.
 - [1] In all tank entering situations, an Oxygen Deficiency Test shall be performed prior tank entry.
 - [2] Under circumstances where "hot work" (welding, burning, grinding, etc.) is to be performed in or on the vessel, a test for combustible gases shall be taken. This is referred to as a "flash test".
 - [3] In most circumstances, flash tests and oxygen deficiency tests will be performed by the supervisor of the area in which the work is being done.
 - [4] Under any conditions where there exists a possibility (no matter how remote) of toxic vapors being present in the tank to be entered, the supervisor will arrange to have the air tested.
 - (f) There must be a set of wristlets of a rescue harness and sufficient rope at the job site to effect a rescue. Any other rescue equipment considered necessary must also be on the job site.

- (g) Workers should wear rescue harness if entering a tank with a large enough opening to easily effect a rescue. In tanks with small openings, only wristlets may be used. (However, in cases where there are agitator shafts, drums or other hazards in which the man's life-line would be entangled and the supervisor in charge feels that wearing the lifeline may entrap a man and increase the hazard, the wearing of a harness or wristlets may be eliminated.)
 - (h) A constant source of fresh air must be provided to insure a complete change of air every few minutes. In cases of short term entry for inspection or removal of objects, an air mask is recommended. In cases of long term entry (generally for repair) the use of an air mover should be considered.
 - (i) When a ladder is required to enter a tank, the ladder must be secured and not removed while anyone is in the vessel. In cases where a rigid ladder could become an obstacle, a chain ladder may be used.
 - (j) Adequate illumination must be provided.
 - [1] A flashlight or other battery operated light must also be on hand to provide illumination for safety exit in the event of an electrical power failure.
 - [2] In any tank used to store flammable liquids, explosion-proof lighting must be used.
 - (k) All electrical equipment to be used inside the tank must be in good repair and grounded.
 - (l) Others working in the immediate area shall be informed of the work being done; and they shall inform the watcher or supervisor immediately of any unusual occurrence which may make it necessary to evacuate the tank.
- (6) The "Buddy" (Watcher or Standby Observer) System:
- (a) Men working inside a confined space must be under the constant observation of a fully instructed watcher.
 - (b) Before anyone enters the tank, the watcher will be instructed by the person in charge of the entry that:
 - [1] An entry authorization must be obtained from the person in charge by anyone entering the tank.
 - [2] A rescue harness or wristlets must be on the job.

[3] He (the watcher) must know the location of the nearest:

- [a] Telephone (with emergency numbers posted).
- [b] Safety Eyewash/Shower.
- [c] Fire Extinguisher.
- [d] Oxygen Inhalator.

[4] For all "hot work" inside a tank, the watcher must be instructed how to shut down welding/burning equipment.

[5] As long as anyone is inside the vessel, the watcher must remain in continuous contact with the worker. HE IS NOT TO LEAVE THE JOB SITE EXCEPT TO REPORT AN EMERGENCY.

[6] UNDER NO CIRCUMSTANCES SHOULD THE WATCHER ENTER THE VESSEL. If the worker(s) in the tank becomes ill or injured, the watcher is to effect the emergency plan described in the attached Standard Operating Procedure.

[7] The watcher still DOES NOT ENTER THE TANK until help is available.

(c) After being instructed in his responsibilities, the watcher will sign an instruction form indicating his understanding.

(7) Welding and Burning Within a Tank

(a) All welding and burning equipment must be provided with a shutoff under control of the watcher; and the watcher must be shown how to shut off the equipment if it becomes necessary.

(b) Welding and burning equipment will only be taken into a tank immediately prior to its use and must be removed from the tank immediately after the job is finished.

(c) For all "hot work" inside a tank, a properly executed flame permit if needed, must be displayed at the job site.

(d) Standard welding and burning safety precautions will always be followed.

d. PHASE III - REMOVE TANK

(1) Disconnect and cap all appurtenant underground piping.

(2) Disconnect and decontaminate all appurtenant pumping equipment.

- (3) The vessels shall be removed and reused by Safety-Kleen or cut up and sold as scrap.
- (4) Contaminated soil surrounding the tank, when exists, shall be removed and properly disposed of.
- (5) Alternatively, the tank may be filled with inert materials such as clean sand or lean concrete.

3. DRUM STORAGE AREA

- a. The drum storage area contains drums of used immersion cleaner.
- b. At closure all the drums will be removed and transported to the Recycle Center with proper packaging, labeling and manifesting, where the contents in the drums will be reclaimed and the drums will be cleaned for reuse.
- c. The concrete floor and spill containment sumps will be cleaned with detergent solution.
- d. All other wastes generated in the closure process will be properly disposed of.

4. WET DUMPSTER AND SOLVENT RETURN/FILL SHELTER AREA

- a. The wet dumpster and dock area returns the used mineral spirits to the storage tank.
- b. Closure of the wet dumpster will be made prior to the cleaning and removal of the storage tank.
- c. At closure, the sludge in the dumpster ("dumpster mud") will be cleaned out of and drummed, labeled, and manifested for proper disposal at permitted facilities.
- d. The dumpster and the dock area will be thoroughly rinsed with clean mineral spirits followed by detergent solution.
- e. The rinsing fluids are discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described earlier.
- f. The cleansed dumpster and dock structure will be reused by Safety-Kleen, or scrapped.

D. FACILITY CLOSURE SCHEDULE AND CERTIFICATION

1. Safety-Kleen shall amend the plan any time changes in operating plans. The plan must be amended within 60 days of the changes.
2. Within 90 days after receiving the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, Safety-Kleen shall remove from the site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if Safety-Kleen demonstrates that:

The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

The following requirements are met:

- The facility has the capacity to receive additional wastes;
 - There is a reasonable likelihood that a person other than Safety-Kleen will recommence operation of the site;
 - Closure of the facility would be incompatible with continued operation of the site; and Safety-Kleen has taken and will continue to take all steps to prevent threats to human health and the environment.
3. Safety-Kleen shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, whichever is later.
 4. When closure is completed, all facility equipment and structures shall have been properly disposed of, or decontaminated by removing all hazardous waste and residues.
 5. An anticipated closure schedule is shown in Exhibit XIII-1.

E. CLOSURE COST ESTIMATES

1. TANK CLOSURE - Open, remove contents of and clean, remove, and dispose of, backfill and regrade the site of the underground storage tanks.

Phase I. - Open the tank

1. Remove Concrete Slab & Dispose
 $11' \times 19' \times 1' \text{ thick} \div 27 = 8.0 \text{ cy}$
 $8.0 \text{ cy} \times \$40/\text{cy} =$ \$ 320
2. Excavation (Tank 3' below grade)
 $15' \times 19' \times 3' \div 27 = 32 \text{ cy}$
 $2 \times 5' \times 19' \times 6' \div 27 = 42 \text{ cy}$
 $\underline{74 \text{ cy}}$
 $74 \text{ cy} \times \$3/\text{cy} =$ \$ 222
3. Cut Opening in Tank \$ 400
Total - Phase I \$ 942

Phase II - Remove Contents and Clean

1. Contents returned to Recycle Center \$ 350*
2. Squeegee Clean Tank = \$ 600
Total - Phase II \$ 950

Phase III - Remove and Dispose of the Tank

1. Disconnect and remove appurtenant equipment 2.0 man-days at \$15/hour =	\$ 240
2. Torch the tank 8 hours at \$20/hour =	\$ 160
3. Remove tank	\$ 250
4. Scrap Tank & Equipment	<u>\$ 100</u>
Total - Phase III	\$ 750

Phase IV - Backfilling and Regrading

1. Backfilling	
a. Put back previously excavated material 74 cy at \$5/cy =	\$ 370
b. Mat'l to replace tank volume 16,000 gal ÷ 7.48 gal/cf = 1,604 cf 1,738 cf ÷ 27 cf/cy = 59.4 cy 79.2 cy x \$10/cy =	\$ 792
2. Regrading	\$ 100
3. Debris Disposal	<u>\$ 100</u>
Total Phase IV	\$ 1,362

Summary of Closure Cost

Phase I	\$ 942
Phase II	950
Phase III	750
Phase IV	<u>\$1,362</u>
Total	\$4,504

* Assumed the value of the used solvent offset the cost of treatment by Safety-Kleen facility.

2. CLOSURE OF DRUM STORAGE AREA - Remove and return drums to the Recycle Center, clean the drum storage area, and dispose of wash water generated.

a.	Remove and return drums to the Recycle Center: 200 miles at \$1.75/mile	\$350**
b.	Clean the storage area - ten man-hours at \$15.00/hour	\$150
c.	Dispose of the wash water - 50 gallons at \$.50/gallon	<u>\$ 25</u>
	Total Closure Cost	\$525

3. CLOSURE OF DUMPSTER AND DOCK AREA - Remove, package and dispose of sludge, clean the dumpster and dock area, remove dumpster and dock structure for reuse.

a.	Remove, package and dispose of sludge - 168 gallons at \$.75/gallon	\$126
b.	Clean dumpster and dock area - 16 man-hours at \$15.00/hour	\$240
c.	Remove dumpster and dock - 16 man-hours at \$20.00/hour	\$320
	Torch eight hours at \$20.00/hour	<u>\$160</u>
	Total Closure Cost	\$846

** Assumed the value of the used immersion cleaner and the drums offsets the cost of treatment by Safety-Kleen's facility.

CLOSURE ACTIVITY	CALENDAR DAYS																	
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1. Final shutdown of service center or storage tank operations.																		
2. Removal/disposal of final waste inventory.																		
3. Decontaminate drum storage areas and dispose of wash water.																		
4. Decontaminate storage tanks and piping, and dispose of wash water.																		
5. Remove tanks, and contaminated materials and backfill excavations.																		
6. Dismantling and scrapping or selling of storage tanks and piping.																		
7. Notification of Regulatory Agency.																		

EXHIBIT XTII-1

Anticipated Closure Schedule for Service Centers